

Notice of Allowability

Application No.

10/070,118

Examiner

Zia R. Hashmi

Applicant(s)

DAVIS ET AL.

Art Unit

2881

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 8/20/2004.
2. ☒ The allowed claim(s) is/are 1,2,7,9,10,12,13 and 15-20.
3. ☒ The drawings filed on 14 August 2002 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
 - * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date 4/21/03 & 7/2/04
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____.
7. ☒ Examiner's Amendment/Comment
8. ☐ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

DETAILED ACTION

1. A request for continued examination was received on August 20, 2004 along with an "Amendment". Independent claim 1 has been amended, as indicated.
2. The amendments and all dependent claims were expressly considered and new literature searches were made and IDS considered. No grounds of rejection were revealed due to the amendments.

Allowable Subject Matter

3. Claims 1, 2, 7, 9-10, 12-13 and 15-20 are allowed.
4. The following is an examiner's statement of reasons for allowance:

With respect to independent claim 1, prior art fails to disclose a mass spectrometer comprising: an ion source to produce ions from a substance to be detected and detector means includes at least two detector elements, each of which elements detects a part of the quantity of ions from the ion source; attenuation means and means for generating secondary electrons from the ions, wherein the attenuation means are placed before the means for generating secondary electrons and act to attenuate the quantity of ions reaching at least one the detector element relative to one of the two detector elements, and wherein one of the detector elements is connected to a time-to-digital converter (TDC) to allow counting of detected ions and at least one of the detector elements is connected in parallel to both a time-to digital converter (TDC) and an analog-to digital converter (ADC) for ion detection.

With this arrangement of the present invention, it is possible to measure the quantity of ions with and without attenuation, which means that both single and multiple ion detections can be quantified more accurately and a high dynamic range for the mass spectrometer can be achieved. This is achieved by parallel acquisition or interleaved acquisition of signal from ion beams with significant attenuation, at one detector and almost no attenuation at another.

Claims 2, 7, 9-10, 12-13, and 15-20 are allowed by virtue of their dependency.

Conclusion

5. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments of Statement of Reasons for Allowance".

6. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact Electronic Business Center (EBC) at 866-217-9197 (toll-free).

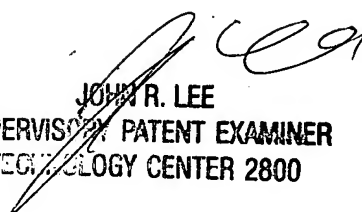
7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Zia Hashmi whose telephone number is (571) 272-2473. The examiner can normally be reached between 8.30 AM- 5 PM. If attempts to reach

Art Unit: 2881

the examiner by telephone are unsuccessful, the examiner's supervisor, John R. Lee can be reached on (571) 272-2477.

Zia Hashmi

October 8, 2004


JOHN R. LEE
SUPERVISOR, PATENT EXAMINER
TECHNOLOGY CENTER 2800